generation of a reference signal that is transmitted through the optical connection without being influenced in the sensor element, said measuring signal and said reference signal having different wavelengths,

detection of said measuring signal and

detection of said reference signal,

characterized by comprising bending compensation through correction data based upon pre-stored data concerning the relationship between the measured reference signal and the measured measuring signal as a function of the bending influence upon said optical connection.

A1 Cont

2. (Amended) The method according to claim 1, characterized by the feeding of said measuring signal to the sensor element causing optical interference in a cavity associated with the sensor element.

3. (Amended) The method according to claim 1, characterized by said correction data consisting of a stored table or function, describing a relationship measured beforehand, between the reference signal and the measuring signal, as a function of the bending influence.

4. (Amended) A method according to claim 1, characterized by being utilized for pressure measurements, said sensor element defining a membrane being affected by the pressure surrounding the sensor element.

5. (Amended) A device for measurements in optical measuring systems comprising: an optical connection connected to a sensor element adapted for providing a signal corresponding to a measurement of a physical parameter in connection with the sensor element; a first light source and a second light source arranged at the opposite end of the optical connection and functioning to emit a first light signal and a second light signal, respectively, at different wavelengths, the first light signal defining a measuring signal, brought to come in towards the sensor element, and the second light signal defining

a reference signal, conveyed through the optical connection without being influenced in the sensor element; a first detector intended for the detection of a light signal modulated by the sensor element; a second detector intended for the detection of a light signal reflected by the sensor element; and a computerized measuring and control unit, to which said detectors are connected,

characterized by said unit comprising means for processing the values detected by said detectors, means for storing data concerning the relationship between the measured reference signal and the measured measuring signal as a function of the bending influence upon said optical connection, and means for correcting the value detected by the first detector in dependence of said correction data.

A1 cont

6. (Amended) The device according to claim 5, characterized by said sensor element comprising a cavity, shaped so as to create optical interference when feeding said measuring signal into the cavity.

7. (Amended) The device according to claim 6, characterized by said cavity being obtained through building up molecular silicone and/or silicone dioxide layers, and an etching procedure.

8. (Amended) The device according to claim 7, characterized by said cavity being obtained through utilizing a bonding procedure.

9. (Amended) A measuring system for measuring a physical parameter influencing a sensor element adapted to be connected to a measuring and control unit, characterized by comprising a separate information-carrying unit comprising a memory and being adapted for connection to said measuring and control unit, said information-carrying unit being co-ordinated with the sensor element by containing stored information regarding the properties of the measuring system and the sensor element during measurements.